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A NATURALISTIC THEORY OF THE REFERENCE OF THOUGHT TO REALITY

IN a paper called 'The Function of Cognition' which he published in *Mind* for 1885, Professor James set forth a theory which seems to me perhaps the most brilliant and original, and certainly the most far-reaching in its consequences, of all his contributions to thought. This theory has hitherto attracted little attention. Scarcely a reference to it is to be met with in later literature. And yet, if prediction were anywhere a thing to be attempted, I should be willing to risk a good deal on the prophecy that it is destined to form one of the foundation-stones of the evolutionary psychology of the future.

The subjective side of this theory was acutely and ably worked out by Dr. Dickinson S. Miller, in an article on 'The Meaning of Truth and Error' which he contributed to the *Philosophical Review* for 1893. In a later paper called 'The Confusion of Function and Content in Mental Analysis,' read before the American Psychological Association at its Columbia meeting in 1893 and published in the *Psychological Review* for 1895, Dr. Miller applied the theory to the problems of conception and belief, drawing the important distinction which appears in the title of the paper. Finally Professor James, in his presidential address on 'The Knowing of Things Together,' delivered at Princeton in 1894 and published in the *Psychological Review* for 1895, restated his theory briefly, acknowledging obligations to Dr. Miller for reconfirming his belief in it.

Now that the doctrines of the voluntarists and the pragmatists have given greater fluidity to our conception of knowledge, encouraging us to look at it not only as a thing serving a practical end but as a thing evolved, while this evolutionary view of knowledge is thought by many to discredit the existence of a reality beyond knowledge to which knowledge refers, it seems to me that the time

has come for the James-Miller theory to play its part in the discussion. My object in this paper is to present a brief summary of it, referring the reader to the articles above mentioned for fuller acquaintance with it, and to propose certain additions which seem to me necessary to make of it a fully equipped working theory.

The central idea of the theory is nothing less than that knowledge is not an ultimate conception. The relation of cognition, by which a mental state transcends itself and lays hold of a reality beyond it—that, for instance, by which a memory has to do with a past experience, or a perception with the other sides and the future existence of the object, or a conception with a whole class of things, or a thought with, say, another person's mind—this supposedly mysterious relation is capable of analysis without remainder into the two commonplace and almost physical relations of resemblance and what Professor James calls 'operation.'

Imagine, he says, an existing reality *q*. Now let a feeling come into existence resembling the reality—a feeling having the quality *q*. We can not yet say, simply on the basis of the resemblance, that the feeling knows the reality. "Eggs resemble each other, but do not on that account represent, stand for, or know each other." But let the feeling, in addition to resembling, operate upon (or enable us to operate upon) the reality, and the relation forthwith becomes one of cognition. In virtue of the ties of resemblance and operation which connect the feeling with the reality, we may say that the latter is known to the former.

Cognition, in short, is nothing but a way of entering into relations with a reality. We enter into relations with it by having a feeling which resembles it and enables us to operate upon it. There is nothing further in cognition.

A mental state, then, in knowing a reality, does not pass bodily outside itself and 'intuite' the reality, but is connected with it by a purely external relation. "A feeling feels as a gun shoots. If there be nothing to be felt or hit, they discharge themselves *ins Blaue hinein*. If, however, something starts up opposite them, they no longer simply shoot and feel, they hit and know." The feeling is immediately acquainted only with its own quality, with its own subjective being; but since this quality resembles and brings us into the right practical relations to the reality, we say, when we consider the relations of the two retrospectively, that the feeling knows the reality.

In order that a mental state should know, then, it is not necessary that it should *mean* to know, or *know* that it knows—that it should 'point to' or 'intend' its object. Here we come to the subjective side of the theory, so effectively worked out by Dr. Miller.

The current notion that in knowing we somehow consciously aim at the reality, are aware of our distinctness from it and our will to represent it—that in memory, for instance, we are aware that the past experience is other than the remembering state, instead of simply being naïvely lost in the contemplation of it—this notion is not borne out by psychological analysis. It rests on a confusion between the point of view of naïve memory and that of later reflection. In looking back, we can distinguish the remembering state as a subjective fact from the reality it served to represent, and so know that we knew: at the first moment all we can do is to know, to be naïvely absorbed in the knowing.

So far Professor James and Dr. Miller.[1] In suggesting certain additions to the theory which seem to me necessary to make it complete and workable, I shall ask the reader to look at knowledge, first, in so far as it is a fact in the physical world. When I perceive a tree, light-rays from the tree outside my body have affected my retina and called forth by means of nerve-currents a brain-event in the occipital regions of my cortex. This brain-event enables me to adjust my relations to the tree, *e. g.*, to go out of the way if it stands directly in my path. Either in itself, or by calling forth

[1] I subjoin a few quotations from Professor James's articles in further elucidation of the text. 'The Function of Cognition,' p. 33: "The point of this vindication of the cognitive function of the . . . feeling lies . . . in the discovery that *q* does exist elsewhere than in it. . . . But the feeling itself can not make this discovery. Its own *q* is the only *q* it grasps; and its own nature is not a particle altered by having the self-transcendent function of cognition either added to it or taken away. The function is accidental; synthetic, not analytic; and falls outside and not inside its being." Ibid., p. 38: "We can say that any other feeling will be held cognisant of *q*, provided it both resemble *q*, and refer to *q*, as shown by its either modifying *q* directly, or modifying some other reality, *p* or *r*, which the critic knows to be continuous with *q*. Or more shortly, thus: *The feeling of q knows whatever reality it resembles, and either directly or indirectly operates on.*" 'The Knowing of Things Together,' pp. 108, 109: "At the very least, people would say that what we mean by knowing the tigers is mentally *pointing* towards them as we sit here. But now what do we mean by *pointing*, in such a case as this? . . . The pointing . . . is known simply and solely as a procession of mental associates and motor consequences that follow on the thought, and that would lead harmoniously, if followed out, into some ideal or real context, or even into the immediate presence of the tigers. . . . In all this there is no self-transcendency in our mental images taken by themselves. They are one physical fact; the tigers are another; and their pointing to the tigers is a perfectly commonplace physical relation, if you once grant a connecting world to be there. In short, the ideas and the tigers are in themselves as loose and separate, to use Hume's language, as any two things can be; and pointing means here an operation as external and adventitious as any that nature yields. . . . In representative knowledge there is no special inner mystery, but only an outer chain of physical or mental intermediaries connecting thought and thing."

other brain-events representing the shock and pain of collision with the tree, it enables me to innervate my muscles in such a way as to go out of my path. Now, observe the relations between this brain-event and the extra-bodily tree. In the first place, there is a resemblance. That the retinal event which calls the brain-event forth resembles the tree, is obvious; the whole *raison d'être* of vision, as an instrument of adjustment to external objects, lies in the securing of such an intra-bodily image. And, though the visual brain-event can hardly resemble the extra-bodily object as closely as the retinal image does, we may assume that the resemblance is not wholly lost, but that there remains to the end at the very least a relation which we may call correspondence. Secondly, the brain-event 'operates' upon the extra-bodily object, in this sense, that it enables us to adjust our relations to it. This may involve actual operation upon the object, or it may involve merely action with reference to it, as where, in the case of the tree, we turn out of our path.

Here, then, we have, between the visual brain-event and the extra-bodily object, the two elements which, according to Professor James, go to the making of the relation of cognition. The visual brain-event is the authorized representative of the external tree within the body; it is, as Huxley says, "a sort of physical idea." Moreover, the body acts, upon occasion of this brain-event, as if what it had to do with were not the brain-event but the extra-bodily object. This peculiar manner of action gives to the brain-event a sort of extra-bodily reference. It establishes between it and the tree a relation which, without too great a stretch of language, I think we may call quasi-cognitive.

But note, now, that the causal relations mentioned by Professor James are those only which run, if I may so say, from the brain-event to the object; whereas this brain-event, with its resemblance to and power to operate on the object, would never have been called forth at all had it not been for preceding causal relations running from the object to the brain. These causal relations, represented by the light-rays and the nerve-currents, are the *conditio sine quâ non* of the production of the brain-event; the least interference with them leads to an alteration or suppression of the brain-event, so that it no longer, or no longer correctly, represents the object. These causal relations, then, are the channel of cognitive communication, so to speak, between the brain-event and the object, and it is obvious that the relation of resemblance, which is the condition of correct representation and appropriate response, is only an incident of them. Finally, note that the possibility of both kinds of causal relations, with the resemblance they include, depends on the spatial proximity of the tree to the body. If the tree were a hundred miles

away, it would not be possible for the body to enter into such quasi-cognitive relations to it.

The relation of cognition, then, as it appears in the physical world—or of quasi-cognition, perhaps it would be better to say—may be resolved without remainder into two sets of causal relations, one running from the object to the brain and involving resemblance, the other running from the brain back again to the object; and these causal relations are rendered possible by proximity in space.

All this while, I have said not a word of the perception which accompanies and, according to the unimpeachable testimony of physiological psychology, corresponds to the brain-event. And indeed, to delay as long as possible our involvement with psycho-physical and metaphysical theories, I prefer to discuss first the parallel case of memory.

Memory depends for its possibility on what is called physiological retention: that is, on the fact that, after having operated in a certain way once, the brain is capable of operating in the same way again, in the absence of the external stimulus which was necessary on the first occasion.

Now, it is evident that the later brain-event resembles the earlier, and that we remember the earlier experience correctly only so far as this is the case. Moreover, it is obvious that this resemblance depends on causal relations, by which the earlier activity modifies the structure of the brain, that structure is conserved, and the conserved structure gives rise to the later activity. The channel of cognitive communication between the later brain-event and the earlier is to be found, then, in this chain of physical causes and effects; and any interference with it during the interval, as, for example, by a brain-lesion, may result in the alteration or total suppression of the later activity. Here, then, we have the same elements of a quasi-cognitive relation as before, except that it is not obvious how the later brain-event can react or 'operate' upon the earlier.

The fact is that 'operate' is an inexact expression. We have to do with causal relations, but not necessarily with causal relations that influence the object; the strict form of statement would be that we 'act with reference to,' or 'adjust our relations to,' the object. Now, this we evidently do in memory: the attitude is one of pure contemplation, or, it may be, of resignation, of acting as if it were useless any longer to act. Or, perhaps, in addition to this, the memory becomes to us by association a spur to present action, a guide in avoiding pitfalls and performing duties that we have learned of in the past. I can not resist the conviction that what is called 'reference to the past,' considered as something apart from all images, is simply a matter of this motor attitude.

We have been speaking, so far, simply of the physical side of memory. But, inasmuch as the reality known here is a well-defined mental state, we may make the application to the psychical side without fear of theoretical entanglement. A memory consists of images reproducing a past experience with its surroundings and date, and in addition to these there is nothing but the fact that we act as if the experience were no longer real, and perhaps also speak the word 'past.' The images resemble the past experience, they are its remote effect, and they enable us to act—there is nothing further in memory.

When we pass to the case of perception and consider the relations of things on the psychical side, a difficulty arises through the fact that there might appear to be here no reality distinct from the perception and bearing the same relation to it that the extra-bodily tree bears to the brain-event. And there can be no question that perception is not, in appearance at least, a form of representative knowledge like memory. It never occurs to the plain man that behind the thing he perceives there may be a thing-in-itself. On the other hand, I venture to assert that it will be found impossible to square the facts of perception with the physiological data above set forth as to its conditions without the help of a panpsychist or other realistic theory. It is possible, of course, to ignore the physiological facts, to reason in all respects as if they were non-existent, or again to adopt the device of considering that they are simply other facts of perception, on a footing with the object perceived, and so to abolish their significance. The trouble is, that this leaves wholly unexplained the surprising fact that the occurrence of the tree *quâ* perception is conditioned on the occurrence of the brain-process *quâ* physical event. But I will not attempt to argue in a paragraph a question discussed at length in my recent book *Why the Mind has a Body*. I will content myself with pointing out that, granting a thing-in-itself behind the phenomenal tree, the perception becomes a representative of it and a means of adjusting our relations to it, in exactly the same way in which the memory is a means of adjusting our relations to the past experience. Here, then, as before, we find the cognitive relation to be resolvable into the two elements of resemblance or correspondence ('symbolism') and causation.

Coming now to conceptual knowledge, we must distinguish cases where the object conceived is a concrete individual from cases where it is a class of things or an abstract quality. When I think of Oliver Cromwell, says Professor Royce (*Spirit of Modern Philosophy*, p. 369), Cromwell "is not just now causing any ideas in" me; and, since resemblance of itself can not constitute cognition, he concludes that the cognitive relation is irresolvable and unique, that it con-

sists in a conscious 'pointing' or 'meaning'—a relation which in *The World and the Individual* he amplifies into a deliberate conscious effort on the part of the idea to represent its object (see vol. i., pp. 24, 25 and 31).[2] But, if I think of Oliver Cromwell now, my thought is not so independent of causal relations as it might at first sight appear. Cromwell's figure impressed his contemporaries, they recorded their impressions in books, the books have come down to our day and their contents passed over into current histories, some of which I have read, etc.—a tangled network of causal relations, no doubt, but without them I should not now be thinking of Oliver Cromwell.

In the conception of a class of things, the presence of causality would, I think, be demonstrated by a study of the manner in which in the child's mind the conception of a class of things grows up. The spoken name at first signifies an individual, or a pair of individuals; only gradually, and as a result of repeated application to new individuals, does it lose its particularity and acquire general significance.[3] The function of the concept when fully formed is, as Professor James says, to 'lead to' or 'terminate in' the particulars of which it is the sign; that is to say, either it conducts us by association to the thought of a particular object, or it enables us to 'act with reference to,' to 'adjust our relations to,' the qualities of particular objects. It enables us to do this both in overt action and in the sequence of our thoughts. Now, to subserve this function properly, the concept must usually, in its immediate being, be a blurred image or a dim proleptic sense of the particular things it represents, and here we have resemblance; while, at the same time, it is on the one hand an effect of the particular things, on the other hand a means of acting and thinking with reference to them, and here we have causality. For a fuller working-out of the theory in its application to the case of conception, I must refer the reader to pp. 39–42 of 'The Function of Cognition' and to pp. 537–543 of 'The Confusion of Function and Content.'

I hope, despite the necessary brevity of this article, that I have succeeded in putting the James-Miller theory in such a way as to make it appear a not wholly unplausible account of the way in which thought refers to reality. I need not say that, in my own view, the reality to which thought refers is not something different

[2] This notion of 'pointing' or 'meaning' is so fundamental a one in Professor Royce's system, that I am not quite sure what the result of its abandonment would be, *e. g.*, as respects the theory of a universal consciousness.

[3] The doctrine sometimes broached that the general is prior to the particular seems to me to rest on a confusion between the vagueness of ignorance and the universal reference of thought.

in nature from thought and more real than it, but simply other experience than that which constitutes the reality of the thought.

There is one objection to the theory to which I am concerned to reply in closing. I shall be told that this theory may be all very well as psychology, but that it never will do in epistemology. You are able, it will be said, to construct this skeptical theory only because you as critic conceive yourself outside the mind and looking on, conceive yourself beholding both the memory and the past experience, both the perception and the thing-in-itself. If you too were dependent for your knowledge upon the subjective states which are all you will admit to be immediately given, the complete uncertainty of anything beyond them would reveal itself clearly, and your theory go to pieces.

To which I reply, that I as critic learn of *my relation to* past experiences and to other minds solely by means of the subjective states which I attribute to naïve knowers. But the practical habit of the race, the instinct of acting and thinking as if we had to do with an independent reality, is strong in me, and it makes that experiencing into knowledge. And the James-Miller theory is simply, as it seems to me, the correct analysis of the experiencing, with the refusal to renounce this immemorial habit of the race.

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A STUDY OF INTENSIVE FACTS

IN the preceding paper[1] we discussed some of the definitions of intensity given by authorities, and learned that its characteristics were, the property of being greater, less or equal, and the inapplicability of addition and the whole-part relation. But since we had not shown why some facts *can* be thus described and others obviously *can not*, it seemed that we had not gone to the root of the matter. Our definition remained a mere subjective group of categories which apparently could apply anywhere we pleased. We had not yet by study of the facts discovered that property peculiar to each and every actual intensity which allows to it magnitude and denies it the whole-part relation. To this study of cases, the second part of our task, we now proceed.

We begin with time. I try to show that it is a genuine intensity, and that the reason lies in that property, peculiar to time, of being a series of individual moments which can not recur—or, to put it in

[1] JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHOD, Vol. I., No. 9.

one word, that it is transitive. I then go on to show that every intensive fact has this same temporal property, and, therefore, that the source of the intensive characteristics lies in their temporal or transitive character. As space is the empirical criterion of extensive quantity, then, so time will be that of intensive quantity.

Time, then, is to be shown to satisfy the above definition of intensive quantity. The argument will be first that in actual time-measurement we *use* none but ordinal notions, and second that no whole-part relation, no addition, in short, no notion of extensive quantity is *implied.*

When we measure a time-length we make use of some process which is repeated continually: the revolution of the earth about its axis, the repeated journey of the clock's hands, the swing of a second-pendulum. We express the amount of time-length by saying (for example) 'it occupied 50 seconds,' that is, 50 repetitions in order of a certain standard process. Now the first thing that strikes one here is that nothing is said about the length of each repetition. Each swing might be longer than the last if the other processes in the world lengthened correspondingly, and it would make no difference to our calculations. Now if the amount of time-length is indifferent it shows that it is useless (though of course not necessarily erroneous) to consider it at all. The needs of scientific prediction are satisfied without our believing in the absolute equality of all the cases in the series, for we do not want to predict *how long* we shall have to wait for a given event to occur, but only *at which repetition,* in the future, of the standard process, the event in question will occur. Nor is the matter altered when we consider the agreement of independent time-keepers. If the different series of events only continue uniform with respect to each other, science can predict just as well. For that is all that agreement of independent time-keepers means. If the clock ticks just as many times one year as the next, it simply means that the stages in the motion of the earth can be exactly correlated with those of the clock-hands, and if all the independent cyclic processes agree, it simply shows that they all keep step together,—it does not show that the stride is not lengthened or shortened. It is often said[2] that we have to assume uniformity to measure time; but it is not uniformity within any one series—only between various independent series. 'Absolute time,' says Professor Mach,[3] 'has neither a practical nor a scientific value,' and if here we mean absolute quantity of time in the extensive sense we must certainly agree. At the same time one might, with Mr. Russell,[4] regard time

[2] Cf. E. H. Rhodes, 'The Scientific Concept of the Measurement of Time,' *Mind,* X., 347.

[3] 'Science of Mechanics' (Eng. transl.), p. 224.

[4] 'Is Position in Space and Time Absolute or Relative?' *Mind,* N. S., 10, 293.

as absolute, though only as an order. At any rate, 'the question whether a motion is itself uniform' is, if not 'senseless,'[5] at least useless. Equal times for science mean the same process or the same number of repetitions thereof. Actual time-measurement, then, does not make use of the notion of absolute equality; it uses only ordinal notions. However, as we shall see, equality is quite possible in a purely ordinal series, and for psychological reasons must be admitted to time-lengths. I wish only to point out at present how far scientific measurement of time, which is supposed usually to imply that it has the properties of extensive quantity, actually is from doing this.

Nevertheless the objection seems inevitable that we have in the *number* of repetitions a divisible quantity just as much as in space; that we have been surreptitiously using the idea of extensive quantity; that even in saying it did not matter whether the earlier cycles equal the later in length we had to speak as though all of them had *some* amount, though we could not determine that amount. So we must now ask: even granting that we use explicitly no other ideas than those of order, are not other ideas such as addition and division (wholes and parts) implied? To put it in another way: how can you define time-length except by numbers that can be added and divided?

The case of time-length differs from that of the length of a straight line in space in that all the elements of the latter coexist, while in time this is not so. The past does not coexist with the present. One might go so far as to admit that many facts or events which have gone into the past can be recalled in memory, or even can be repeated existentially. But at any rate a past moment (considered separately from the event in that moment) can not itself be recalled. Otherwise it would be meaningless to say that time is an irreversible series. We doubtless have present ideas (memories) that refer back to past events, but we can not go back to the real past. Now this is the reason why time can not be an extensive quantity like space: because you can not have a whole of parts unless the parts are all there to make up the whole, and by definition this is not so in time. And here is where a time-series differs from the ordinal numbers. The latter are coexistent, for you presuppose that you can survey them in reverse order, and it is for this reason that the commutative and associative laws can be proved by their aid. But the commutative law can not be proved of a series of moments in time, just because you can not reverse the order. And if so, addition is impossible, and with it the kind of measurement applied to extensive quantities. I do not deny that time-measurement is

[5] 'Science of Mechanics' (Eng. transl.), p. 224.

possible. It is, however, a measurement like that of degrees of loudness or of any qualitative difference. It is the correlation of time-lengths with the whole numbers, with the restriction that the former are not, like the latter, divisible or addible. Thus, we can say four days are twice as long as two days if we mean only that a certain process repeated four times is that same-process-twice-repeated twice repeated. Logically we can not without contradicting the meaning of pastness go any further. A time-length, then, is to be defined as the relation between one moment and a later moment, which conforms to our definition of intensity. It has greater, less and equal (for our immediate judgments of time-perception, especially in rhythm, show this); it is apprehended all at once, when the length is completed; it is not a whole of parts, nor can it be added to make a whole; it can, however, be as exact as you please, for it can be correlated with ordinal numbers as regards its value. Exactness, however, by no means implies addition, multiplication or division. Its value is defined by the ordinal number of standard events between two terms.

Mr. Russell[6] says that by a simple convention we can extend addition to all magnitudes, intensive or otherwise. The convention is that in the series $a_0a_1a_2$, etc., where all the terms are an equal distance apart, a_0a_n is n times a_0a_1. And it is just this convention we should have to make in the case of time-lengths. But we must remember that here it is not merely a convention, but a convention that is not directly true of time.

It will be seen from the above account that the reason time is not an extensive quantity lies in its property of vanishing or its transitiveness. In a whole each part has, by the commutative law, the property that it may be taken after or before *any* other part, so long as it is taken but once. In an ordinal series, each element is, as regards its place before or after any other, individuated. Thus in extensive quantity the part or element is in respect to place universal; in order, individual. To get from one moment in time to another we must go in a determined order through certain moments and no others. Time is thus an individuated series, and any time-length is a relation defined in terms of individual elements. This is why one time-length can not become part of another. It is only analogy to call three days part of a week—analogy because the ordinal number three can, by virtue of the coexistence in ordinal series in general, be viewed as part of the number seven—no more than analogy, because time differs from the ordinal numbers in not permitting coexistence. The criterion, then, which enables us to assert that time possesses the properties of an intensity, is that it is made up of

[6] 'Principles of Mathematics,' Vol. I., pp. 180, 181.

individuated elements, that no one, and no group, of them, can, after it has occurred, be used again to form part of another group, or, to put it most briefly, that it is a transitive fact. Either of these criteria—individuation or transitiveness—might serve as the criterion of intensity, but on account of its obviousness to inspection I prefer the latter.

The reason velocities are intensities is because their value depends on time-length. A body moving at a certain velocity does not contain slower velocities, because it is an event occurring at one individual moment, or group of them; if it is increased in the latter portion of its journey, that does not contain the earlier and lesser velocity because that actually can not be repeated, since the time can not be repeated—though another equal to it may be. One velocity to contain others would have to contain other time-factors than its own, which is, as we have seen, impossible. Five miles an hour does not contain (or, since velocity is inversely as the time, we had better say is not contained in) five miles in two hours, because the journey in the one hour is not a part of that in two hours; it is a distinct individual event, and indeed this is shown by the fact that it can not occur in the same body, but requires another individual body. That is, you can not have two different velocities at once in one body because they imply different time-values at once, which is impossible. Of course we can and do measure velocities just as we do times, but this is only correlation with ordinal numbers, with the added restriction of the whole-part relation. The criterion, then, which enables us to prove that velocities are intensive quantities is that they depend upon time—which means in the last analysis that they are transitive facts.

Our study of the nature of time enables us to infer that anything which is defined in terms of tendency to change, must possess the properties of intensity. Any factor in the physical world which sets up change must be viewed as the first term in a series; and the value of that factor is expressed by the number of changes which follow from it. But it is individually different from the series to which it gives rise; and the reason it is thus individuated is because it is essentially earlier in time. The initiation of the series can not be found over again later in the series; the cause can not be part of the effect, for it is individuated in time. Of course it may be measured by correlation with the ordinal numbers, and by Mr. Russell's convention (referred to above), but this does not obliterate the fact that the whole-part relation is intrinsically impossible.

Let us apply this to temperature. The temperature of a body tends always to decrease; everything cools off. Whenever there is a transfer of heat energy it is because of a difference in temperature

between two bodies; and the greater the difference the more energy is transferred (other factors being equal). Temperature differences are thus definable as initiations of a process of change; *i. e.,* transfer of heat energy. The higher temperature in one of the bodies in such a case as this, marks the first stage in the transfer; it does not contain existentially the lower one, just because they belong, in the scientific description of the phenomenon, later on in the series. Here, therefore, it is the transitiveness of the higher temperature, its character as initiator of change, that individuates it, and rules out the whole-part relation.

The other physical intensities all have the above property of setting up a series of changes, as Professor Helm[7] has shown, followed by Professor Ostwald.[8] So we seem to be justified in concluding that in the physical field whatever is transitive must possess the properties of intensity, if it has at the same time quantity.

We come now to psychical intensities. It is generally admitted that psychical states are essentially transitive, that this is perhaps their *differentia.* In the physical world we suppose the same conditions to recur: bodies are relatively permanent and distances and positions in space remain the same. But every moment of psychic life is a new entity, and a psychical state is a changing thing. Possibly in this change the same elements may recur in part, and possibly there is in some cases extensive quantity, where you have complex states with distinguishable component elements. But in the kind of psychical states to which the term intensive is applied, there is not complexity, either for immediate introspection or for definition. In a very loud tone-sensation lesser ones are not discernible; experience does not give us the parts spoken of in Mr. Stout's definition. And as Professor Münsterberg shows,[9] it is unintelligible to speak of them, for they must be identical in nature, and it is absurd to speak of such an element being present many times all at once. A psychical intensity difference is a difference between simple facts. But if so, it is intensities that are *par excellence* transitive; because one can never recur a second time as part of another greater one. An intensity has the same property as an event in time—two of the former can not coexist unless they are differently localized, just as two events can not coexist in time unless they occur in different places. In other words, it is because different intensity values of the same quality are transitive with reference to each other—because one must go before another can come—that the whole-part relation is impossible.

[7] 'Die Lehre von der Energie.'
[8] 'Naturphilosophie,' Lect. XII.
[9] 'Grundzüge der Psychologie,' Vol. I., Ch. 8, I.

The measurement of these intensities is similar to that of time. We can immediately perceive the difference in loudness of two tone-sensations a_0 and a_1 to be the same in amount as that between a_1 and a_2. Then we may call the difference a_2a_0 twice that of a_2a_1. This is done in Weber's law, when we call the just perceptible differences equal. Such measurement, however, does not imply the whole-part relation.

It appears, then, that the above intensive facts owe their intensity to their transitiveness. But is this the only possible criterion of an intensive fact? Is it the only guarantee that where there is greater, less or equal, there will be no addition and consequently no whole-part relation? I think it is, and for the following reasons:

The commutative law (without which there is no addition or whole-part relation) seems able to hold only if the elements considered retain their individuality when brought into different permutations and combinations. Now we can postulate this of bodies and figures in space (though not always) and so here (usually) addition, wholes and parts are possible. The condition of no addition, etc., would then be, always, that the elements considered (some of them at least) do not retain their individuality when brought into various permutations and combinations. But this condition is equivalent to transitiveness, which can belong only to temporal facts. Therefore the temporal character (and what is involved in it) alone can be the condition of intensity. Of course it does not follow that every fact which has to be defined in temporal terms is intensive. When, however, it has the property of being greater, less or equal, it must be intensive, and guarantees the presence of pure order without extensive quantity, in the world of our experience. As space or coexistence makes possible extensive quantity, so time or succession makes possible intensive quantity.

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DISCUSSION

DR. PERRY'S REFERENCES TO WARD'S 'NATURALISM AND AGNOSTICISM'

IN his interesting article on 'Philosophical Procedure with Reference to Science,' published in No. 7 of this JOURNAL, Dr. R. B. Perry refers to Ward's 'Naturalism and Agnosticism' in terms that seem to indicate a serious misapprehension of the author's purpose. This misapprehension appears likewise to be shared by others: I have heard more than one person speak of the book with some

irritation as 'an attack on science.' Here are some of Dr. Perry's sentences: "Not satisfied with confuting the dogmatic positivist, and partly for the sake of confuting him, the author indulges in considerable riddling of the conceptions of science. The reader is encouraged to believe that with a little more dialectic, Professor Ward could overthrow the whole system of science. . . . But, in truth, philosophy presents a very sorry spectacle when she attacks the conceptions of science in a hostile spirit. Not only is it presumptuous for the amateur to show the specialist the error of his ways, but also humorous for the study whose barrenness is somewhat notorious, to challenge the legitimacy of her neighbor's numerous and very healthy progeny. It is thus that philosophy from time to time waxes so sublime as to be ridiculous." After referring in no very complimentary terms to Karl Pearson's 'Grammar of Science,' Dr. Perry concludes his paragraph as follows: "'Ward and Pearson furnish convenient illustrations of reactionary tendencies in contemporary philosophy of science. It is a question of some logical nicety which position is most untenable, that of the philosopher who refutes science in detail, or that of the scientist who refutes philosophy in general" (pp. 170, 171).

Since Dr. Perry is himself a teacher of philosophy, we can not regard his contrast of the barrenness of that study with the fruitfulness of science as indicative of his real opinion regarding the value of philosophy, or indeed, as anything more than a piece of rhetorical pleasantry. But his remarks are positively misleading when he speaks of Ward as 'attacking the conceptions of science,' 'showing the scientist the error of his ways,' and 'refuting science in detail.' It should be abundantly clear from the preface to the first edition, as well as from numerous passages in the body of the work, that the author's quarrel is not with natural science as science, but with 'Naturalism,' *i. e.*, with the mechanical theory of the world when it is put forward as philosophy—as a final ontology. Here are a few sentences taken from that preface: "These lectures . . . only attempt to discuss in a popular way certain assumptions of modern science which have led to a widespread, but more or less tacit, rejection of idealistic views of the world. These assumptions are, of course, no part of the general body of the natural sciences, but rather prepossessions that after gradually taking shape in the minds of many absorbed in scientific studies, have entered into the current thought of our time. . . . If with the history of science and the results of the sciences before us we pass straight on to the construction of a philosophy, idealism has no chance. But in truth, 'modern science' hardly needs to construct its philosophy; for without any conscious labor on its part, the naturalistic view of the world

seems to stand out clearly of itself. . . . But is it verily positive fully-orbed reality that science sets before us? This is the question that leads us to examine the mechanical theory, the theory of evolution and the theory of psychical epiphenomena."

Statements like these can be found in abundance, and would seem to make sufficiently clear the author's own conception of his task. Of course, if it could be shown that he has not maintained this standpoint but has entered the lists against natural science on its own ground, Dr. Perry's strictures might still be justified. But Dr. Perry has made no attempt to show this, and I see no facts which could be cited to support the claim.

In the second edition of his work which was published last year, Professor Ward restates his position still more clearly, and also deals directly with criticisms of the same general nature as those offered by Dr. Perry. (Supplementary Note to Part I.) I shall quote a few sentences which will, I think, make further comment on my part unnecessary: "Naturalism is not science, and the mechanical theory that serves as its foundation is not science either. . . . Nevertheless, though Naturalism and the natural sciences, the Mechanical Theory of the Universe and mechanics as a science, are logically distinct, yet the two are at first sight very similar and historically are very closely connected. . . . In fact Naturalism, like Materialism, is only physics treated as metaphysics. . . . But many of them [modern physicists] consider that their science is attacked by those who seek to lay bare the latent metaphysics, the physical realism on which the Mechanical Theory of the Universe rests. The criticism of this theory in the preceding lectures has been so regarded. It has been described as 'an attempt to prove that the science of mechanics is no science at all'; and again as making the 'exactest of sciences impossible'; and finally as exhibiting 'a dislike, a contempt, a hatred, a loathing of everything connected with science'! In point of fact this criticism rests throughout on the expositions of a school of physicists . . . steadily increasing in number and influence, who reject entirely the almost mediæval realism imparted by Descartes to modern physics. . . . It surely verges on extravagance to suppose that men like Kirchhoff or Poincaré . . . are seeking 'to invalidate the methods of science,' or to prove that 'mechanics is no science at all.' . . . I should assuredly never have dreamt of daring to meddle with physics as a positive science, still less of attempting to invalidate its methods or belittle its splendid achievements. There is a striking passage in Mr. Bradley's 'Appearance and Reality,' which I have had throughout before my eyes: 'As a working point of view, directed and confined to the ascertainment

of some special branch of truth, phenomenalism is of course useful and indeed quite necessary. 'And the metaphysician who attacks it when following its own business is apt to fare badly.' But he continues in words that I have already quoted (p. 64 above), 'When Phenomenalism loses its head and becoming blatant, steps forward as a theory of first principles, then it is really not respectable. The best that can be said of its pretensions is that they are ridiculous.' This blunder I believe that physical realism has perpetrated so far as it has advanced or defended the mechanical theory of nature. And it was solely against these 'pretensions' and the realistic interpretation of physical conceptions on which they rest, that my strictures were aimed'' ('Naturalism and Agnosticism,' 2d ed., Vol. I., pp. 303–305).

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FOURTH ANNUAL MEETING OF THE WESTERN PHILOSOPHICAL ASSOCIATION

THE fourth annual meeting of the Western Philosophical Association, held with the University of Missouri at Columbia, Mo., on April 1 and 2, was, in one or two essential particulars, the most satisfactory which the association has had. Pains had been taken to avoid overcrowding the program; not more than two papers were presented at any one session; and the result of this wise policy was seen in unusually general and adequate discussions of most—unfortunately, not all—of the topics presented. Since the only justification for the oral delivery of technical papers consists in the promotion of criticism and a comparison of notes between workers in the same field, good discussions are of the essence of a good meeting; and in this respect the sessions at Columbia were more successful than those of previous years. The social features of the gathering were also happily arranged, and, through the unstinted hospitality of the faculty of the University of Missouri, were highly enjoyable; they had the simplicity and informality that are best calculated to promote good-fellowship and a better acquaintance among the fellow-specialists for whom such meetings are held. Some seventeen members were in attendance, including representatives of seven universities and colleges.

One whole session was devoted to a general discussion of the philosophy of Herbert Spencer, opened by a comprehensive and penetrating criticism of Spencer's metaphysics by Professor E. L. Hinman, of the University of Nebraska, and an examination of Spencer's contribution to sociology by Professor C. A. Ellwood, of the Univer-

sity of Missouri. The list of the remaining six papers—which were equally divided, as to subject-matter, between psychology, ethics and the history of philosophy—has already appeared in this JOURNAL. Nearly all of the papers (which were for the most part too long and elaborate to permit of the compression necessary in such brief abstracts as could properly appear here) are eventually to be published in full in technical periodicals. The tendencies of opinion which came most conspicuously to light in the several papers and discussions were: A reaction against the analytical psychology in favor of the functional and genetic, a sense of dissatisfaction with the present state of ethical theory and with certain crystallized distinctions, antitheses and assumptions that prevail in the customary treatment of it, and a demand for a fresh and more adequate attack upon the problem of ethical methodology; and, in the field of the history of philosophy, a disposition to minimize not only the value but also the historic originality of some of the fundamental distinctions and arguments of Kant's epistemology.

At the business sessions, in the regretted absence of the president, Professor Patrick, the chair was taken by the secretary, Professor A. R. Hill, and by other members of the retiring executive committee. Resolutions were passed expressing the regret of the association at the removal of Professor Thilly, its first president, out of its section of the country, and its cordial good wishes for his future work in a new field. The question of a change of name and affiliation with the eastern society was laid upon the table, in the failure of the American Philosophical Association to take any definite action upon the matter at its last meeting. The proposal for a joint meeting with the eastern association at Philadelphia was apparently not regarded with favor, and the selection of time and place for the next meeting was left to the new executive committee. The following officers were elected for the ensuing year: President, Professor A. Ross Hill, dean of the Teachers' College of the University of Missouri; Vice-President, Professor E. L. Hinman, of the University of Nebraska; Secretary-Treasurer, Professor Arthur O. Lovejoy, of Washington University; members of the Executive Committee, Professor Frank Sharp, of the University of Wisconsin, and Dr. H. W. Stuart, of the University of Iowa. The following were elected to membership: Dr. Mary K. Benedict, Dr. George R. Dodson, Dr. W. B. Elkin, Professor F. C. French, Dr. R. M. Ogden, Professor E. J. Swift.

A. O. L.

REVIEWS AND ABSTRACTS OF LITERATURE

The Evolution of Theology in the Greek Philosophers: The Gifford Lectures in the University of Glasgow, 1900–1 and 1901–2. EDWARD CAIRD, LL.D., Master of Balliol College, Oxford. New York, The Macmillan Company, 1903. 2 vols.

Dr. Caird always writes in a masterly and interesting way. It is needless, therefore, to write a commendatory notice of his last volumes. Every one interested in theology and philosophy will know that he can not forego the pleasure and profit that these lectures afford. They deal with more technically philosophic subject-matter than his lectures on 'The Evolution of Religion,' and therefore afford more opportunity for the enforcement of absolute idealism, of which he is *facile princeps* expositor in England. In fact, that is his one subject, whatever subject-matter he takes up. His masterly work on Kant's philosophy might well be entitled 'Through Kant to Hegel.' His lectures on 'The Evolution of Religion' is an application of the same philosophy to the historical phenomena of religion. Greek philosophy gives him the genesis of absolute idealism. Here he is most thoroughly at home with his subject. Thus there comes to a reader of his works a sense of repetition. It would be ungracious to say that he is always saying the same thing over. It would have to be added that he always says the highest truth, and says it well. He is always saying and proving that the real is, through and through, the rational—that absolute self-consciousness is the only really real. He is glad to use the conception of evolution in his expositions. But one quickly finds that it is the philosophical rather than the scientific conception of evolution that he uses. It is the way of the spirit in thinking experience out of its *sub specie temporis* to the *sub specie æternitatis* point of view, rather than any evolution in the subject-matter itself. The evolution is not in the eternally real, but in our gradual, and, I may add, which he would not, in our asymptotical apprehension of the absolute. There is only one real experience. There are many faltering onward steps in man's knowing it as it is for God. The key-word he uses in tracing this evolution is that of *abstraction.* Everything seen *sub specie temporis* is seen away; because it is seen as partial, or as an *abstraction.* Only as experience is seen *sub specie æternitatis* is it seen aright, as a total, a *res completa,* or concretely. Degrees of reality come from degrees of knowing. *Sub specie æternitatis* there are no degrees of reality. Thought and being are identical. The real is the rational. God is all in all—the one total experience. Absolute idealism has the task of showing the logical process from the *sub specie temporis* to the *sub specie æternitatis* point of view. If this can not be done, then we have agnosticism or mysticism, not philosophy. Dr. Caird does not minimize the task. He rejects any '*facile monism,*' as he knows that at best it must be a *difficile* monism. Hence he emphasizes the natural dualism against which Greek philosophy waged such a strenuous, and not altogether winning, fight. That is what he finds in Greek philosophy

—in Plato and Aristotle—an unresolved dualism. One must question whether he does not overemphasize their dualism and minimize their monism. Or, accepting his interpretation, one must then ask whether he himself thinks clearly and cleanly and speculatively through to a monism, or whether he does not glide over the bridge of mysticism to the goal. Dr. Caird is strenuously opposed to pantheism. But one always feels, in reading his works, that this antagonism comes of his religious and moral training, and that his victory is rather ethical than speculative. Surely in these volumes where he treats of Neo-Platonism, he comes to do what Professor Royce does in his Gifford lectures. That is, he greatly enlarges the concept of thought, taking in the religious and ethical elements.

He concludes his fine chapter entitled, 'Does the primacy belong to reason or to will?' by saying, 'the general result to which our argument brings us is that neither the theoretical nor the practical life can be viewed as the exclusive source of that higher consciousness which is manifested in religion and philosophy' (II., 381). Either view, he asserts, is a false abstraction. That is, the purely speculative, logical, philosophical point of view is insufficient, leading, as it did with the Neo-Platonists, to an emptying of the consciousness of God of its peculiar meaning and content (II., 382).

And it is only thus that Dr. Caird, like Dr. Royce, is saved from going the abstractly speculative road to a negative absolute. The crux of the problem is to see the world of becoming, of evolution, the time and space world, as organic elements of the one true reality—to know God, not as a unity that transcends all finite, partial, abstract existences, but as a Being who realizes Himself in the whole process of nature and spirit (II., 312)—a unity that is eternally self-differentiating and yet maintaining itself in and through all its dualistic, polyistic forms. All absolute idealism must deny absolute reality to the world of scientific knowledge. Science is a grade of knowing that gives a grade of reality—but not the real reality. There are many abstractions, but only one concrete. All finite thought, including scientific knowledge, deals with abstractions. All philosophy is essentially theology, as Aristotle saw, because it is an explication of the one concrete experience. I confess to finding more speculative theology—less dualism—in Greek philosophy than Dr. Caird allows. And I also fail to find in later idealism any great advance upon the central speculative conceptions of Greek philosophy.

In his chapter on the final results of the Aristotelian philosophy, he finds a deadlock in Aristotle's conception of God as self-consciousness, as related to the world of genesis. The changing world of *processes* is regressively traced back to the unmoved mover. But there is no passage from this to the world of motion. He says, 'We may hide this from ourselves by speaking of self-mover with Plato, or an unmoved mover with Aristotle, or a *causa sui* with Spinoza; but this is only a disguise for the fact that we have made what Aristotle calls a *μετάβασις εἰς ἄλλο γένος*, a change to quite a different category or way of explanation.' This is a hard saying and one questions whether, if this be true, modern idealism does not commit the same fault.

As for Dr. Caird's masterly treatment of Plato and Aristotle and the Neo-Platonists, it goes without saying that no one can afford to miss his fine critical exposition of these masters of those who know. He treats fully of the development of the idealism of Plato, whom he calls 'the first systematic theologian,' who yet failed to attain a full reconciliation of the opposite lines of mysticism and dualism. He gives a chapter on Plato's doctrine of the immortality of the soul and idea of God. He shows how the severe critic of Plato, Aristotle, is a most faithful disciple, but holds that he is ultimately more dualistic than Plato himself. This is, at least, disputable.

His last chapter, on 'The Influence of Greek Philosophy upon Christian Theology,' will be read with deep interest. Profound as the influence was, Dr. Caird declines to see it to be a secularization of the Christian faith. Greek philosophy supplied the necessary form for the work of reflective thought upon the Christian consciousness that gave the Church its theology. But yet Dr. Caird thinks it brought the bane of dualism into Christian thought and deepened the gulf between the human and the divine. This seems like a far-fetched cause, when the cause is so near at hand—immanent in the Christian consciousness itself. In this chapter, too, one sees that Dr. Caird regards Neo-Platonism as the logical development of Greek philosophy. This at least will open the question for another estimate of philosophy and for a different reading of the development of Greek philosophy and Christian theology. It seems to me to vitiate the view of philosophy as a progressive way of the spirit of man to the spirit of God.

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Rationality and Belief. A. K. ROGERS. *The Philosophical Review,* January, 1904, pp. 30–50.

This article attempts 'an adjustment of the relative claims of the logical and extra-logical factors in belief.' The discussion starts with a definition of reality as being 'at bottom a postulate of the will.' At the foundation of all belief lie our active needs. What satisfies our needs is real; if it can be used as a means for doing something that our nature impels us to do, we believe in it. All else remains in the form of mere floating images. But further, to give full objectivity to what we feel as real there must occur some clogging of the smooth functioning of things. This brings out the consciousness of the distinction between means and end, and thus the separation between self and the world arises. A further development from the same cause is the distinction between the objective thing and sensation. Finally social contrasts help to bring out the consciousness of our ends, and social agreements develop the distinction between the illusory and the real.

The practical inference from this postulate character of all reality is that spiritual values, which we also believe in on the basis of practical needs, have as much right as have our beliefs in the facts of physical life.

Now if reality is a postulate, then emotion, which is feeling directed

towards some object, can give us reality. And since the writer holds that emotional demands are more obviously the ground of conviction in respect to spiritual facts than are demands of the will, he seeks to defend emotion against the suspicion that it is a disturbing element in the search for truth. In the first place, taking the coarser emotions, which result when instinctive activities are checked, their very tumultuousness reveals how deep-seated and organic their corresponding instincts are and therefore tends to validate the satisfactions of those instincts. In the second place, taking the deeper and steadier emotions, which are not organic sensations, their pressure lifts human activity from the level of the habitual and automatic into full consciousness, and therefore their right to furnish us reality can not be challenged.

The logical factor in belief comes in because we can not, after all, believe what we desire to. Desires conflict, and the realities they give us would annihilate each other without the logical test of reality as umpire. The logical test is consistency. If reality is a postulate, then we can ultimately believe only in that which gives harmonious expression to our active needs as a whole. This consistency required for belief is in the ideally complete experience a practical consistency, but at any given time it would have to be intellectual consistency.

The writer's treatment of emotional postulates is suggestive, and the logical faculty seems to be satisfactorily dove-tailed into the doctrines of the primacy of the will. But the query arises whether the word reality has not been used in two senses. The reason why the writer says that 'reality *is* a postulate' is that it is the '*insistence*' of a need that lends reality to what would otherwise be a mere floating image. But he is not willing to say 'that the truth which an act accepts is really created by the act.' He speaks of 'the larger reality beyond us' and of the fact that our acts 'presuppose a certain determinate system of reality' which they do not make. In short, he can not surrender the representative theory of knowledge. But the present reviewer questions whether such reservations do not imply the use of logical grounds for belief in a way different from that set forth in the article, which would throw the problem of their adjustment to the extra-logical factors open again.

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The Participation of the Eye Movements in the Visual Perception of Motion. RAYMOND DODGE. *The Psychological Review,* January, 1904, pp. 1–14.

This paper is, for the most part, a theoretical discussion of visual perception of motion. The author lays aside introspective evidence as unreliable; he presents some new material, but his arguments are based largely upon the results of experiments reported in his earlier papers. In the experiments in which he perceived the perforations in a revolving disk stand still during the interval in which the eye was moved for a short distance in the direction of rotation, and in the last quarter of the swing of a pendulum where it was found that the eye in pursuing the

pendulum makes no corrective movements, there is persistent stimulation of the one portion of the retina throughout the eye movement. The kinesthetic data are present, but change in retinal stimulation is wanting; the result is that motion is not perceived, and there is the illusion of the object standing still.

A new observation, and one which he believes is conclusive, was made with the counterbalanced pendulum. If the eye pursue a point of light carried by the pendulum below the axis, that point will appear to rest an appreciable length of time at the end of each swing, while a point carried above the axis will appear to make an additional movement in what he terms a 'whiplash excursion.' The pursued point and the eye, in the last quarter of each swing, are moving at the same rate; the kinesthetic factors are not sufficient to produce the perception of motion in that point. The point at the other end of the pendulum is moving across the retina, and, in this case, retinal change produces the perception of motion.

His data are of the greatest interest and importance. The material gathered by those who held that the kinesthetic factors are the determining factors in visual perception of motion, can not be ignored. We are impressed with the fact that the process is a very complex one. The final solution of the problem will be had when some means of harmonizing the results obtained by the adherents of the opposing theories shall have been found.

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JOURNALS AND NEW BOOKS

INTERNATIONAL JOURNAL OF ETHICS. January, 1904. Vol. XIV., No. 2. *The True Democratic Ideal (pp. 137–150)*: W. JETHRO BROWN. – "The democratic ideal once stood for liberty or equality, it now stands for what may be described as brotherhood. . . . When belief as a whole has seemed to wither and life has become in many ways more materialized there has developed a new and very exalted social ideal. . . . Has democracy undertaken too great a task? Have we tried too early in the world's history to realize the political institution based on mutual forbearance and cooperation? . . . The future alone can decide. *Rationality and Finality in Ethics (pp. 150–161)*: THOMAS C. HALL. – As long as the interests of the group are at variance with the interests of the individual the sense of oughtness is a necessity, but it tells us not *what is our duty,* but only that our duty *must* be done. We must guard carefully against letting our increasing insight into the relativity of ethical authorities and formulæ diminish our faith in the finality of duty itself. *The Toleration of Error (pp. 161–171)*: E. RITCHIE. – The broad tolerance of the present day does not result from materialism or indifference to truth. All views are not equally adequate, but reality is infinite and so many-sided that I can well afford to let others remain in possession of their religious beliefs and regard them as true from their point of view, even when mine contradict them. We

should bear in mind the great lesson taught by Hegel in such matters. *Proverbial Morality (pp. 172–179):* ROBERT A. DUFF. – Popular maxims and sayings are negative rather than positive, particular rather than universal, prudent rather than generous, by no means consistent with one another. Their conservatism however is valuable and 'they achieve immortality because they are able to wed form and matter in a way which makes these appear inseparable.' *Crime in England (pp. 180–184):* SAMUEL J. BARROWS. – Recent increase of crime in England, shown in the latest statistics, is mostly in petty offences, and need not cause alarm as to social or moral decline. *The Cynics (pp. 185–200):* JOHN MACCUNN. – An interesting account of the strength and weakness of the cynical philosophers. Their special strength lay in their insistence on the self-sufficingness of the spirit and of spiritual things, their weakness in interpreting self-sufficingness negatively and egoistically rather than positively and socially. Yet there was much in Greek life to justify even the negative side of their doctrine; they are worthy of being treated more seriously than is usual in histories of philosophy. *The Individualism of Marcus Aurelius (pp. 201–208):* W. A. WATT. – "The great practical defect of the ethics of the 'Meditations,' is that . . . there is not sufficient appreciation of the fact that it is not through the retiral but through the advance of the soul that personality develops. Yet, by the stoical method peace and tranquility of the inner self can be gained; and in representing this aspect of the human soul Marcus's work has great value." *The Spring of Salvation (pp. 209–219):* H. B. ALEXANDER. – A young man's plea that beauty rather than either happiness or knowledge be taken as the ethical ideal. "Can a leaven of beauty permeate and make beautiful our world? Only time can show, but I believe it can. The crying need is for men . . . who shall be apostles of beauty, each a redeemer in his kingdom. . . . The spring of salvation is the beautiful." *Discussion (pp. 220–229):* Remarks on Professor Leuba's Criticisms: JAMES H. HYSLOP. Rejoinder to Professor Hyslop: JAMES H. LEUBA. *Book Reviews (pp. 230–261):* Robert A. Duff, *Spinoza's Political and Ethical Philosophy:* JAMES GIBSON. Alexander Bain, *Dissertations on Leading Philosophical Topics:* E. E. CONSTANCE JONES. Charles Carroll Everett, *The Psychological Elements of Religious Faith:* WILLIAM M. SALTER. Giovani Cesca, *La Religione Morale dell' Umanita:* E. RITCHIE. Zino Zini, *Il Pentimento e la Morale Ascetica:* E. RITCHIE. Andrew Lang and J. J. Atkinson, *Social Origins and Primal Law:* W. D. MORRISON. Charles Booth, *Life and Labor of the People in London:* C. P. SANGER. R. B. Haldane, *The Pathway to Reality:* F. MELIAN STAWELL. Henry Maudsley, *Life in Mind and Conduct:* A. R. AINSWORTH. Horatio W. Dresser, *Man and the Divine Order:* JAMES H. HYSLOP.

April, 1904. Vol. XIV., No. 3. *The Problem of Teleology (pp. 265–280):* FELIX ADLER. – The object of the paper is 'to define the notion [of finality] in such a way as to satisfy the requirements of moral science and practice without affronting the causal conception of the physical scientist.' After effectively criticizing Paley, the Darwinians and Paul-

sen, the author states his own conclusions: (1) "An end may be defined as a term in a causal series, the existence of which, as end, depends not at all on its reference to the series of antecedents leading up to it, but on its 'cross-reference' to simultaneous corresponding terms in other causal series." (2) "The notion of end . . . exists in idea only and not in fact . . . and can not serve us in . . . explaining nature, but only in evaluating it." *The Ethics of Passive Resistance (pp. 280–291):* J. G. JAMES. – "There is no personal or individual right in a matter of political obligation, on the ground of morality, to stand against or to resist the collective will or conscience of the majority when once the proposals have passed from the legislative to the administrative stage. . . . 'Passive Resistance,' though having no support on ethical or on ethico-political lines, may yet possess such moral value as will always attach to movements that are carried out with moral seriousness and sense of moral responsibility." *The Development of a People (pp. 292–311):* W. E. BURGHARDT DUBOIS. – The apparent inferiority of the negro to-day is a natural result of nearly five hundred years of slavery. For "not only did slavery overthrow the negro family and teach few lessons of thrift and foresight; it also totally broke a nation from all its traditions of the past in every realm of life. The chief aid to the negro race is and must be given through its group leaders, the highly trained men who can inculcate by example and by social intercourse high ideals of life and a love for sane and sanitary methods of living. To the elementary and to the industrial schools, must be added the college and university for the adequate training of the group leaders." *Is Vivisection Justifiable? (pp. 312–322):* C. S. MYERS. – (1) Vivisection is not immoral, because, on the one hand, it does not cause much pain to the animals, and, on the other hand, even though it necessarily deprives the men who practice it of any sympathy for animal suffering, it does not therefore degrade or brutalize them. (2) It is of incalculable utility, as being the basis of all progress in bacteriology. (3) It increases our knowledge of truth. Therefore vivisection is justifiable. *Professor William James' Interpretation of Religious Experience (pp. 322–339):* JAMES H. LEUBA. – James is criticized for restricting his study of the religious consciousness to its abnormal types, and also for his general conclusion, which, in spite of several disclaimers, is to the effect that mystical states imply the action upon us of objective powers. Our knowledge of abnormal psychology enables us to explain the mystic state as due to purely subjective causes; and the quasi-polytheism which James would introduce is as unlovely and uninspiring as it is unscientific. *Wordsworth's Ideal of Early Education (pp. 339–352):* JOHN H. MUIRHEAD. – A sympathetic exposition of Wordsworth's protest against utilitarian ideals in early education, and his plea for a culture of the heart rather than the mere intellect. The simple, strong and tender sentiments natural to the child should be allowed to develop themselves quite spontaneously, through contact with nature and without interference or artificial stimulus of any kind. In the later years of childhood we should use 'fairy tales, romances, the best biographies and histories and such parts of natural history . . .

as belong to it, not as an art or science, but as a magazine of form and feeling.' *What should be the Attitude of Teachers of Philosophy Towards Religion?* (*pp. 353–362*): J. CLARK MURRAY. – The writer takes issue with Royce, holding that the judicial and critical attitude admitted to be proper to the philosopher would be helped rather than hindered by active membership in a church. *Byron Versus Spencer* (*pp. 362–377*): J. KINDON. – In this twofold appreciation, the writer's general conclusion (which is well supported by appropriate excerpts from the two poets) is that "Byron's power of abstraction, his earnestness of will rather than feeling, and his forcible diction, all fail to raise his subjects to the level of Spencer's; they are seen to be intellectual and individual rather than human compositions. Spencer's feeling is rich, grandly simple, varied, continuous; there is no apparent effort, no personal will put forth." *Book Reviews* (*pp. 377–399*): G. E. Moore, *Principia Ethica:* J. S. MACKENZIE. E. L. Godkin, *Unforeseen Tendencies of Democracy:* SYDNEY BALL. Josef Redlich, *Local Government in England:* S. J. CHAPMAN. W. R. Benedict, *World Views and their Ethical Interpretations:* JOHN DEWEY. Henry Laurie, *Scottish Philosophy in its National Development:* JAMES LINDSAY. Robert Adamson, *The Development of Modern Philosophy:* J. E. MCTAGGART. W. G. Miller, *The Data of Jurisprudence:* W. F. TROTTER. B. L. Hutchins and A. Harrison, *A History of Factory Legislation:* D. H. MACGREGOR. W. M. Bowack, *Another View of Industrialism:* S. J. CHAPMAN.

REVUE PHILOSOPHIQUE. No. 4, April, 1904. *La Testament Philosophique de Renouvier* (*pp. 337–358*): L. DAURIAC. – A study of Renouvier's *Le Personnalisme suivi d'une étude sur la perception, etc.* This work contains a new monadism, with a cosmogony which is theological perhaps more than philosophical. Renouvier's doctrine of the creation, fall and restoration of man. *Science et Conscience: à propos d'un livre récent* (*pp. 359–367*): F. RAUH. – The work of M. Lévy-Bruhl is incomplete. Conscience is not a fact to be deduced, but a fact to be discovered empirically. We should study ideals and their types, and the conditions under which they arise. *La Science Positive de la Morale* (*suite et fin*) (*pp. 368–392*): G. CANTECOR. – Positivistic ethics seeks to exclude underlying *a priori* postulates, but they are necessary both to thought and action. Kant's position was in the main correct, though not fully worked out. The practical postulates do not give the details of ethics, but are none the less important and true. *Revue Critique: Les Principes Philosophiques de la Chimie Physique* (*pp. 393–409*): A. REY. – A summary and criticism of *Traité de Chimie Physique: Les Principles,* by J. Perrin. The work is an attempt to give precise definitions of fundamental scientific concepts such as force, action, energy, entropy, etc. It defends the reality of atoms, ether, etc. It is admirably done. *Analyses et Comptes Rendus:* G. Gaillard, *De l'Étude des Phénomènes au Point de Vue de leur Problème Particulier:* L. ARRÉAT. G. Delamare, *Recherches Expérimentales sur l'Hérédité Morbide:* C. BLONDEL. Macrès, *Essai sur la Philosophie Mécanique:* A. REY. R. Schweitzer, *Die Energie und Entropie der Naturkräfte:* A. REY. J. Hundhausen, *Zur Atom-*

bewegung: Kritik und Neues: A. REY. C. Rădulescu-Motru, *Science et Energie:* N. VASCHIDE. A. Brachet, *Pathologie Mentale des Rois de France:* P. CHASLIN. J. Rogues de Fursac, *Manuel de Psychiatre:* P. C. J. M. Bramwell, *Hypnotism, its History, Practice and Theory:* S. JANKELEVITCH. J. G. Hibben, *Hegel's Logic, an Essay in Interpretation:* L. WEBER. *Revue des Périodiques Étrangers. Correspondence. Livres Déposés.*

Braunschwig, Marcel. *Le sentiment du beau et le sentiment poétique.* Paris: F. Alcan. 1904. 240 pp. 3.75 fr.

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Stoll, Otto. *Suggestion und Hypnotismus in der Völkerpsychologie.* Leipzig: Veit & Comp. 1904. 16 m.

NOTES AND NEWS

THE programme for the season of 1904 of the Glenmore Summer School of the Culture Sciences, founded in 1889 by Thomas Davidson, has been issued. The session will begin on July 11 and extend to September 3. Lectures are announced for Mondays, Tuesdays, Thursdays and Fridays at 11 a. m., and for Sundays at 11:30 a. m. There will be in-

formal discussions relative to the subjects of the lectures of each week on Wednesday evenings. The following lectures are announced: weeks beginning July 11 and 18, Charles W. Bakewell, Ph.D., of the University of California, on 'The Philosophy of Plato'; week beginning July 25, Leslie Willis Sprague, Lecturer for American University Extension Society, Philadelphia, on 'Ralph Waldo Emerson'; week beginning August 1, Charles G. Child, Ph.D., L.H.D., of the University of Pennsylvania, on 'The Making of English Literature'; week beginning August 8, Hon. Chester Holcombe, A.M., Ex-Minister to China, Lowell Institute Lecturer, 1902, on 'The Religion and Literature of China'; week beginning August 15, Felix Adler, Ph.D., of Columbia University, on 'The General Theory of Social Ethics,' and Edward G. Spaulding, Ph.D., of the College of the City of New York, on 'Dogmas in Philosophy and Science'; week beginning August 22, Alvin S. Johnson, Ph.D., of Columbia University, on 'Some Aspects of the Labor Question'; week beginning August 29, J. Mark Baldwin, Ph.D., LL.D., of Johns Hopkins University, on 'Social Psychology.' There is a possibility that a few additional lectures may be given during the summer by Professor W. T. Brewster, Ph.D., of Columbia University, and by Professor Lightner Witmer, Ph.D., of the University of Pennsylvania on Literature and Psychology respectively. For particulars of the session, Professor Stephen F. Weston, of Yellow Springs, Ohio, should be addressed.

At a meeting of the Trustees of Columbia University on May 2, a gift to establish a new professorship of philosophy was announced. The Trustees voted to appoint to the chair John Dewey, Ph.D., head professor of the department of philosophy in the University of Chicago since its foundation. Professor Dewey has accepted and will offer courses at Columbia beginning with the second semester of the academic year 1904–05.

Professor Edward Bradford Titchener completed on May 3, a course of four lectures at Columbia University, on 'The Psychology of the Affective Processes' and 'The Revival of Psychophysics.' On Monday evening, May 2, he met the Psychological Journal Club for a general discussion of his lectures.

Professor Paul Hanus, who holds the chair of education at Harvard University, will be given leave of absence next year, and will spend the time making a study of foreign systems of school administration. Professor George Santayana, of the department of philosophy, will also spend the year abroad.

In July Professor G. Stanley Hall and Professor J. Mark Baldwin are to lecture in the Summer School of the South at the University of Tennessee.

Dr. G. Dawes Hicks has been appointed to the chair of moral philosophy in University College, London, made vacant by the resignation of Dr. James Sully.

It is announced that Professor James Ward, of Cambridge University, will lecture before the Summer School of the University of California, and will also be present at the Congress of Arts and Sciences in St. Louis.